Case Report

Congenital Anterior Urethral Diverticulum Co-existing with Phimosis: A Case Report and Review of Literature

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ABSTRACT

Congenital anterior urethral diverticulum (CAUD) is a rare congenital blind ended out pouching of the urethral through the corpus spongiosium. We report its coexistence with phimosis in a 7-year-old boy who presented with difficulty in passing urine. His prepuce was not retractable and balloons at voiding. Suspected associated CAUD was confirmed at circumcision. His voiding became normal with resolution of lower urinary tract symptoms after treatment. The related literatures were reviewed. The symptoms of the two conditions mimic one another and the diagnosis of phimosis which is clinical may overshadows CAUD with its needed confirmatory imaging studies. CAUD can coexist with phimosis and high index of suspicion helps in the management. Diverticulectomy and urethroplasty with circumcision at the same sitting is curative.

Key words: Congenital urethral diverticulum, Primary urethral diverticulum anterior urethral diverticulum, phimosis, urethral diverticulum

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INTRODUCTION

CAUD is a congenital anomaly of the anterior urethra characterized by blind ended out pouching of the anterior urethral that bleaches through the Corpus spongiosium. Patient presents with obstructive and irritative lower urinary tract symptoms including post micturation dribbling. Patient with CAUD also have associated penile swelling covered by the prepuce that is predominantly ventral and more prominent at voiding with or without other attendant complications. Despite the emphasis on accurate diagnosis for appropriate intervention; CAUD coexisting with phimosis[1] could pose a diagnostic challenge and easily missed with an inherent risks during circumcision. The clinical presentations of CAUD mimic pathological phimosis[1] which is common and presents with lower urinary tract symptom plus ballooning of the prepuce but easily treatable with circumcision.

CASE REPORT

A 7-year-old boy who presented at Abubakar Imam Urology Centre with difficulty in passing urine characterized by predominantly obstructive lower urinary symptoms that progressively worsen. His prepuce ballooned at micturation and he had associated post micturition urine dribbling with painless progressive penile swelling. On examination he had circumferential penile swelling extending distally from mid penile shaft that was more ventrally. The swelling was cystic, fluctuant and the prepuce non retractable [Figure 1]. His urine M/C/S yielded no bacterial growth, Pack cell volume, urea and electrolytes were normal. He was prepared for circumcision. Intraoperatively, non retractability of the prepuce was confirmed with the coexisting blind ended out pouching of the urethral through the corpus spongiosus. The CAUD was treated by diverticulectomy with Urethroplasty in addition to the circumcision [Figures 2 and 3]. The urethral stent was removed after 3 weeks and patient's voiding has remained normal at follow-up.

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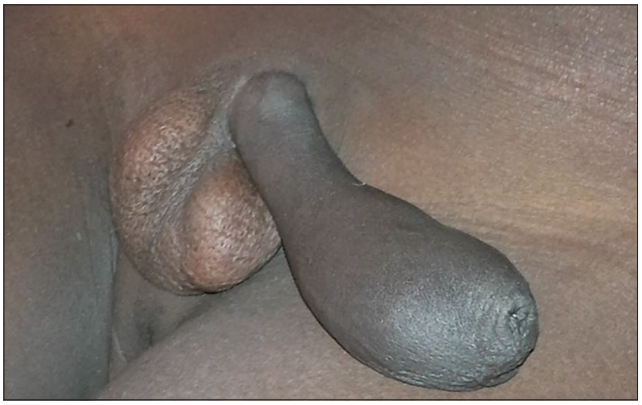

Figure 1: Penile ballooning with non retractable prepuce

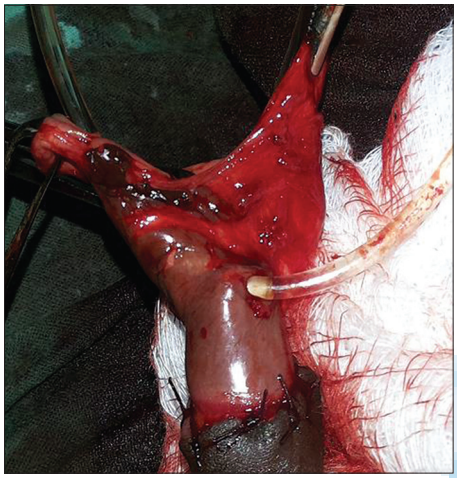

Figure 2: Congenital anterior urethral diverticulum demostrated intraop

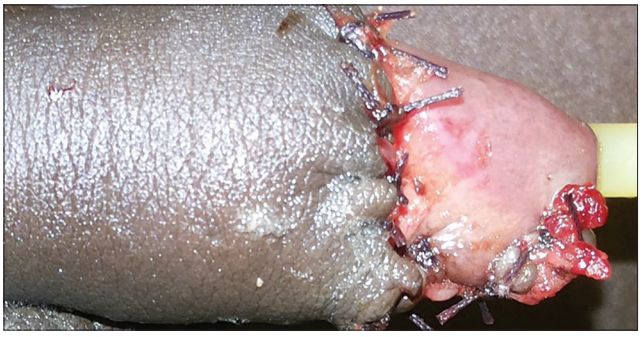

Figure 3: After diverticulectomy, urethroplasty and circumcision

DISCUSSION

Anterior Urethral diverticulum is quite rare and only in 20% cases are congenital;[1] this is the first case seen in the centre. The exact aetiology is unknown but most commonly acceptable theories include cystic dilations of the periurethral glands, rupture of syringocoele, and incomplete hypospadias[5] other theories includes sequestration of an epithelial nest after closure of the urethral folds and that diverticulum of the urethra develops because of epidermal pockets communicating with the ventral urethral wall.[11] Our patient presented at the teenage age[4] with lower urinary tract symptoms including post micturition urine dribbling. He had poor urinary stream, and penile swelling that was more prominent while voiding[2] contributed by both the phimosis and the CAUD. Other presentations could be at neonatal period, infancy[2,3] and childhood. The Clinical diagnosis of the CAUD in our patient was overshadowed by the coexisting phimosis and the diagnostic retrograde urethrogram, voiding cystourethrogam and Urethroscopy[6,7] were not done. The commoner[8] narrowed neck saccular CAUD was seen at operation. Circumcision remains the commonest surgical procedure performed in most part of the world[9] and missing such diverticulum could be catastrophic and leads to distressful lifelong disability of urethrocutaneous fistulae in the patient. The patient had no features of urosepsis or impaired renal functions that may necessitate the initial urine diversion before the definitive surgical treatment.[10]

Our treatment for the CAUD was open diverticulectomy and urethroplasty with circumcision done for the Phimosis at the same sitting. Endoscopic incision of the lip of the diverticulum was reported for smaller diverticuli[10,11] Endoscopic incision is minimally invasive though the residual pouch can develop into a flap requiring repeated procedures. Advantages of our open procedure includes it's a one stage procedure and it gives uniform urethral calibre. Also paediatric Endourological practice is still rudimentary in our part of the world.

CONCLUSION

CAUD can coexist with phimosis. High index of suspicion helps in the management since clinical features of phimosis may overshadow those of CAUD; also the needed RUG and VCUG/urethroscopy that confirms CAUD are not required before circumcision for phimosis. Diverticulectomy and urethroplasty with circumcision at the same sitting is curative.

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